

Appl. No. 10/064,462
Amdt. dated March 30, 2005
Reply to Office action of December 01, 2004

REMARKS

1. Claim amendments:

5 Claim 1 is amended to include the limitation of claim 8.
Accordingly, claims 7-10 are cancelled.

Claims 2 and 4-6 are amended for consistency with amended claim
1.

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Claim 11 is cancelled.

Claims 14-17 are introduced, claim 14 being original claims 1
and 10 combined. Dependent claims 15-17 correspond to original
15 claims 2, 3, and 5, respectively.

No new matter is entered by any amendment. Consideration of all
amendments is respectfully requested.

20 2. Rejection of claims 4, 5, and 11 under 35 U.S.C. 112, second
paragraph:

Claims 4 and 5 are amended to recite "major surface", which has
proper antecedent basis, rather than "major face".

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Claim 11 has been cancelled.

Withdrawal of this rejection is requested.

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3. Rejection of claims 1-7 and 12-13 under 35 U.S.C. 102(b) as being anticipated by Kim (US 5,978,229):

- 5 Amended independent claim 1 includes the limitation of "attaching at least one metal strap directly to the IC package to mechanically attach the IC package to the circuit board."

Kim teaches pins, e.g. 50a-d of Fig.4, on the bottom of the IC
10 package 10. Such pins differ from the claimed metal straps in mechanical attachment characteristics, such as strength, flexibility, and attachment process.

Withdrawal of this rejection is respectfully requested.

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4. Rejection of claim 8 under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Day et al. (US 6,392,887):

- Amended independent claim 1 includes the limitation of
20 "attaching at least one metal strap directly to the IC package to mechanically attach the IC package to the circuit board."

Kim teaches (col. 4, lines 40-49) that the pins, e.g. 50a-d of Fig.4, are for guiding purposes. That is, the guide pins and their
25 corresponding guide holes allow the "package 10 to be easily and exactly mounted on the printed circuit board," exact mounting being key to the electrical connections between the package and the circuit board.

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Clearly, Day's spring clip 46 cannot fulfill this essential feature of Kim. Day does not teach or suggest how the spring clip 46 can be used in exact mounting, nor does Day teach the equivalent
5 of a guide hole for the spring clip 46. This is not surprising, since the spring clip 46 merely for holding the heat sink 40 to the housing 32 (col. 2, lines 36-43).

Based on this, the applicant contends that one of ordinary skill
10 in the art would not be motivated to make this combination since it would greatly reduce the benefits of Kim's teachings, specifically, the benefit of exact alignment. The applicant respectfully argues that this combination is made in hindsight.

Moreover, claim 6 recites "metal straps are disposed on edges of the IC package," which is an arrangement that simplifies attachment (see applicant's Fig.8). Kim's pins are on the bottom of an IC package and Day's spring clip 46 is above an IC package. There is no suggestion for placing straps "on edges of the IC
20 package" as claimed.

Withdrawal of this rejection and consideration of claims 1-6 and 12-13 is respectfully requested.

25 **5. Rejection of claim 9 under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Melton et al. (US 5,186,383):**

Claim 9 is cancelled.

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6. Rejection of claim 10 under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Jamison (US 4,728,022):

5 Claim 10 has been cancelled, however, new claim 14 is a combination of original claims 1 and 10. Specifically, claim 14 recites "disposing at least one strip of solder between the major surface of the IC package and the major surface of the circuit board to mechanically attach the IC package to the circuit board."

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As in Item 4 above, the applicant argues that the combination of Kim and Jamison relies on hindsight. Kim's clear intent of allowing the "package 10 to be easily and exactly mounted on the printed circuit board" is not considered. Jamison's solder strip
15 30 does not allow for the combination to achieve exact mounting. Therefore, the applicant argues that this combination is unmotivated and that claim 10 is unobvious in view of the cited art.

20 Withdrawal of this rejection and consideration of claims 14-17 is respectfully requested.

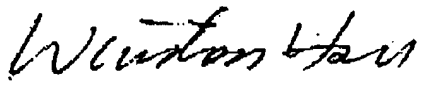
7. Rejection of claim 11 under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Juskey et al. (US 6,356,453):

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Claim 11 is cancelled.

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Sincerely yours,



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